Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): An apparatus ~~measuring the~~ for analyzing parameters in a volume with V=V(t), where t is time, said volume comprising a plurality of substances; the apparatus comprising:

a first signal source A=A(t), said first signal source being representative of a first substance comprising the volume;

~~two~~ a second signal source~~s A=A(t),~~ B=B(t), said second signal source being representative of a second substance comprising the volume with $A(t)=B(t)K_0$, where $K_0>1$, $V(t)=B(t)K_1$, where K_0, K_1 are stationary in a time interval t_0, where t_0 is any real value; and

a first detector[[s]] to measure a first signal assigned as C'(t) according to the time interval t_0 ~~the $B'(t)=B(t)+N_B(t)$ and the one assigned as $C'(t)=C(t)+N_A(t)$~~, where C'(t) can be either V'(t) related to the volume by $V'(t)=V(t)+N_V(t)$ or A'(t) related to the first signal source by $A'(t)=A(t)+N_A(t)$, wherein ~~$N_B(t)$ is the noise of B(t),~~ $N_A(t)$ is the noise of A(t), and $N_V(t)$ is the noise of V(t) during the measurement time interval t_0,

a second detector to measure a second signal assigned as B'(t) according to a time interval t_0, where B'(t) is related to the second signal source by $B'(t)=B(t)+N_B(t)$, wherein $N_B(t)$ is the noise of B(t) during the measurement time interval t_0,

wherein the ~~measured~~ first and second signals ~~B'(t) and~~ C'(t) and B'(t) are transferred into electro optical signals by a signal converter and sent into a data processor to analyze either K_0 for determining the concentration of the second substance with respect to the first substance or K_1 for determining the concentration of the second substance with respect to the volume.

Claim 2 (original): An apparatus as claimed in Claim 1 wherein V=V(t) comprises:

an additional property of V(t)=K2P(t), where P(t) is the pressure in V(t), K2 is stationary in the time interval t0, and t0 is any real number; and

detectors to measure $P'(t)=P(t)+N_P(t)$, wherein $N_P(t)$ is the noise of P(t) during the measurement time interval t_0, to transfer the measured B'(t) and P'(t) into electro-optical signal and send the signal into a data processor to analyze K_2.

Claim 3 (original): An apparatus as claimed in Claim 2, wherein the concentration of B is calculated from K_2.

Claim 4 (original): An apparatus as claimed in Claim 2, wherein the elasticity of V(t) is calculated from K_2.

Claim 5 (original): An apparatus as claimed in Claim 2, wherein the t_m is found at which $V(t_m)=V$ at maximum volume from A(t) or P(t).

Claim 6 (original): An apparatus as claimed in Claim 5, wherein the $V(t_m)$ is guiding the injection of an ingredient into V at t_m.

Claim 7 (original): An apparatus as claimed in Claim 1, wherein K_0 or K_1 is used to analyze the concentration of B.

Claim 8 (original): An apparatus as claimed in Claim 2, wherein K_2 is used to analyze the concentration of B.

Claim 9 (previously presented): An apparatus as claimed in Claim 2, wherein one of the P'(t) or C'(t) is assigned as E'(t), said data processor analyze the original data B'(t) and E'(t) by the following steps:

performing a mathematical transformation T on both E'(t) and B'(t);

estimating K_R from the following relation: $F_i[E'(t)]/Fi[B'(t)] \approx K_R$, R:0, or 1, or 2 accordingly where F_i is the i^{th} order component of the transformation T; and

determining the ratio of two signals E(t) and B(t) from the estimated K_R.

Claim 10 (original): An apparatus as claimed in Claim 9, wherein the mathematical transformation T is linear, said processor further performing the steps of:

identifying and estimating $F_i[N_B(t)]$ by the noise around $F_i[E(t)]$; and

determining the estimated K_R from the following relation:

$\{F_i[E'(t)]-F_i[N_B(t)]\}/\{F_i[B'(t)]-F_i[N_B(t)]\} \approx K_R$.

Claim 11 (original): An apparatus as claimed in Claim 9, the processor further performing the step of:

approximation K_R from the largest value of Fi[E'(t)]-Fi[NB(t)] for all kinds of linear transformation T and all possible orders of the transformation T, based on the following relation:

$\{F_i[E'(t)]-F_i[N_B(t)]\}/\{F_i[B'(t)]-F_i[N_B(t)]\} \leq K_R$.

Claim 12 (original): An apparatus as claimed in Claim 9, wherein

E'(t) is statistically confident to be not noisy such that $N_E(t) \approx 0$,

$E'(t)=E(t)+N_E(t) \approx E(t)$,

$B'(t)=B(t)+N_B(t)$, and

$E(t)=K_R*B(t)$,

said method comprising the steps of:

performing a mathematical transformation T on both E'(t) and B'(t);

estimating K_R from the following relation:

$F_i[E'(t)]/Fi[B'(t)] \approx KR$

where Fi is the i^{th} order component of the transformation T and the position of Fi[B'(t)] is identified by the noise around $F_i[E'(t)]$; and

determining the ratio of two signals E(t) and B(t) from the estimated K_R.

Claim 13 (original): An apparatus as claimed in Claim 12, wherein the mathematical transformation T is linear, further comprising the steps of:

identifying and estimating $F_i[N_B(t)]$ by the noise around $F_i[E(t)]$, and denoting the estimating of $F_i[N_B(t)]$ to be $F_i[N_E(t)]$; and

estimating K_R from the following relation:

$$F_i[E(t)]/\{F_i[B'(t)]-F_i[N(t)]\}\approx K_R.$$

Claim 14 (original): An apparatus as claimed in Claim 13, further comprising the steps of:

approximation K_R from the largest value of Fi[E'(t)]-Fi[NB(t)] for all kinds of linear transformation T and all possible orders i of the transformation T, based on the following relation:

$$F_i[E(t)]/\{F_i[B'(t)]-F_i[N(t)]\}\leq K_R.$$

Claim 15 (previously presented): An apparatus as claimed in Claim 9, wherein the transformation T is Fourier transform.

Claim 16 (original): An apparatus as claimed in Claim 15, wherein the F_i is F_1, the first harmonic of the Fourier transform.

Claim 17 (original): An apparatus as claimed in Claim 9, wherein the step for determining a ratio of two signals E(t) and B(t) based on two real signals E'(t) and B"(t) including noise $N_E(t)$ and $N_B(t)$, respectively, wherein:

E'(t) is a least noisy signal;

$E'(t)=E(t)+N_E(t)$,

$B'(t)=B(t)+N_B(t)$, and

$E(t)=K_R*B(t)$,

comprising the steps of:

identifying the minimum of B(t), $B'(t)_{min}$, by E'(t); and

removing the static noise by $[B'(t)-B'(t)_{min}]$.

Claim 18 (original): An apparatus as claimed in Claim 17, further comprising the steps of approximating K_R by using the following relation:

Maximum of $[E(t)-E(t)_{min}]$/Maximum of $[B(t)-B(t)_{min}] \approx K_R$,

where $E(t)_{min}$ and $B(t)_{min}$ are the minimum of E(t) and B(t), respectively.

Claim 19 (original): An apparatus as claimed in Claim 17, further comprising the steps of approximating K_R by using the following relation:

$F_i[E(t)-E(t)_{min}]/F_i[B'(t)-B(t)_{min}]/ \approx K_R$,

where both E(t) and B(t) are periodic and $E(t)_{min}$ and $B(t)_{min}$ are the minimum of E(t) and B(t), and F_i is the i^{st} order of a transformation.

Claim 20 (original): An apparatus as claimed in Claim 2, wherein the volume change in a periodic way.

Claim 21 (original): An apparatus as claimed in Claim 1, wherein the signal comprises induced signal.

Claim 22 (original): An apparatus as claimed in Claim 21, wherein the signal comprises and electromagnetic wave.

Claim 23 (original): An apparatus as claimed in Claim 21, wherein the induced signal comprises mechanical wave.

Claim 24 (original): An apparatus as claimed in Claim 1, wherein a signal source in the volume comprises a marker.

Claim 25 (original): An apparatus as claimed in Claim 1, wherein the volume comprises blood.

Claim 26 (original): An apparatus as claimed in Claim 1, wherein the volume comprises tissue.

Claim 27 (original): An apparatus as claimed in Claim 1, wherein a signal source comprises hemoglobin.

Claim 28 (original): An apparatus as claimed in Claim 1, wherein a signal source comprises uric acid.

Claim 29 (original): An apparatus as claimed in Claim 2 further comprises a pressure source for generating the volume change.

Claim 30 (original): An apparatus as claimed in Claim 1, wherein volume change in a periodic way.

Claim 31 (original): An apparatus as claimed in Claim 9, wherein the volume comprises blood, the blood pressure is measured by signal E'(t).

Claim 32 (original): An apparatus as claimed in Claim 31, further comprising a instrument for measuring the blood flow F'(t) in the volume, and means for determining K_p, which is an indicator of perfusion efficiency, based on the following relation: $F(t)= K_pE(t)$.

Claim 33 (original): An apparatus as claimed in Claim 6, further comprising an ingredient detector for injecting another ingredient in accordance with the result of the detector.

Claim 34 (original): An apparatus as claimed in Claim 33, wherein said ingredient comprises glucose and said another ingredient comprises insulin.

Claim 35 (original): An apparatus as claimed in Claim 1, wherein signal is transmitted through communication.

Claim 36 (original): An apparatus as claimed in Claim 1, wherein the volume is in a man-made system.

Claim 37 (original): An apparatus as claimed in Claim 1, wherein the signal source comprises DNA.

Claim 38 (original): An apparatus as claimed in Claim 1, wherein the signal source comprises RNA.

Claim 39 (original): An apparatus as claimed in Claim 1, wherein the signal source comprises protein.

Claim 40 (original): An apparatus as claimed in Claim 1, wherein the signal source comprises colored molecular.

Claim 41 (original): An apparatus as claimed in Claim 4, wherein the V is a pixie of $V(x,y,z)$, a much larger volume.

Claim 42 (original): An apparatus as claimed in Claim 41, wherein the $V(x,y,z)$ is compared with $V(x+\Delta x,y+\Delta y,z+\Delta z)$ in which Δx, Δy, Δz are the size of the pixie.

Claim 43 (original): An apparatus as claimed in Claim 41, wherein the $V(x,y,z)$ is compared with $Vs(x,y,z)$ a stored value in the processor.

Claim 44 (original): An apparatus as claimed in Claim 1, wherein the signal source comprises glucose.

Claim 45 (original): An apparatus as claimed in Claim 1, wherein the signal source comprises cholesterol.

Claim 46 (original): An apparatus as claimed in Claim 1, wherein the signal source comprises triglycerol.

Claim 47 (original): An apparatus as claimed in Claim 1, wherein the signal source comprises enamation.